CLAIMS

WE CLAIM:

1. A resistive voltage divider comprising:

an insulating substrate;

a first terminal for application of an input voltage;

a second terminal;

a third terminal;

a first resistor formed on the insulating substrate and connected between the first and second terminals;

a second resistor formed on the insulating substrate and connected between the second and third terminals; and

a metallic conductor formed on the insulating substrate, connected at one end to the first terminal, disposed to be adjacent to at least part of the first resistor and having a distributed capacitive coupling thereto selected to compensate for distributed stray capacitance from the first resistor to a circuit ground.

2. A resistive voltage divider as in claim 1 wherein the substrate is ceramic and the first resistor is a serpentine pattern of nickel chromium.

3. A resistive voltage divider comprising:

an insulating substrate;

a first terminal for application of an input voltage;

a second terminal;

a third terminal;

a first resistor formed on the insulating substrate and connected between the first and second terminals;

a second resistor formed on the insulating substrate and connected between the second and third terminals;

a first metallic conductor formed on the insulating substrate, connected at one end to the first terminal, disposed to be adjacent to at least part of the first resistor and having a distributed capacitive coupling thereto selected to compensate for distributed stray capacitance from the first resistor to a circuit ground; and

a second metallic conductor formed on the insulating substrate, connected at one end to the third terminal, disposed to be adjacent to at least part of the second resistor and having a distributed capacitive coupling thereto selected to compensate for distributed stray capacitance from the second resistor to the circuit ground.

4. A resistive voltage divider as in claim 3 wherein the insulating substrate is ceramic and the first and second resistors are serpentine patterns of nickel chromium.

5. A voltmeter comprising:

an input HI terminal for application of an AC voltage to be measured;

an input LOW terminal for use in conjunction with the input HI terminal during the application of the AC voltage to be measured;

an insulating substrate;

a first terminal disposed on the insulating substrate and coupled to the input HI terminal;

a second terminal disposed on the insulating substrate;

a third terminal disposed on the insulating substrate;

a first resistor formed on the insulating substrate and connected between the first and second terminals;

a second resistor formed on the insulating substrate and connected between the second and third terminals; and

a metallic conductor formed on the insulating substrate, connected at one end to the first terminal, disposed to be adjacent to at least part of the first resistor and having a distributed capacitive coupling thereto selected to compensate for distributed stray capacitance from the first resistor to a circuit ground that is coupled the input LOW terminal;

an amplifier having inverting input referenced to the circuit ground and having an output;

the inverting input coupled to the second terminal and the amplifier output coupled to the third terminal;

a first trimming capacitance coupled between the first and second terminals;

a second trimming capacitance coupled between the second and third terminals;

the product of the first trimming capacitance with the first resistance being generally equal to the product of the second trimming capacitance with the second resistance; and

an AC voltage measurement circuit coupled to the amplifier output.

6. A method of compensating distributed stray capacitances to ground in a resistance having a driven end and an other end, the method comprising the step of:

(a) coupling a compensatory distributed capacitance from the driven end of the resistance to locations along the length of the resistance that have distributed stray capacitances to ground;

(b) for each location along the length of the resistance that has distributed stray capacitance to ground, selecting the amount of compensatory distributed capacitance coupled to that each location, such that the voltage division ratio of the compensatory distributed capacitance to the distributed stray capacitance to ground for that each location equals the voltage division ratio across the resistance at that each location.